STATEMENT OF LEGAL AND FACTUAL BASIS

Ethan Allen Operations, Inc., Dublin Division
4825 Cleburne Blvd.
Dublin, Virginia
Permit No. VA-20789

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Ethan Allen Operations, Inc., Dublin Division has applied for a renewal of the Title V Operating Permit for its facility. The Department reviewed the application and prepared a draft Title V Operating Permit. The draft permit was submitted for public comment and USEPA review.

Engineer/Permit Contact:

Preparation Date: August 3, 2005

Permit Date: November 1, 2005

FACILITY INFORMATION

Permittee
Ethan Allen, Operations Inc.
4825 Cleburne Blvd.
Dublin, VA 24084

Facility
Ethan Allen, Operations Inc., Dublin Division
4825 Cleburne Blvd.
Dublin, VA 24084

Registration Number: 20789
AIRS ID No. 51-155-0038

SOURCE DESCRIPTION

SIC Code: 2511
NAICS Code: 337122

The facility is a Title V major source of volatile organic compounds and Hazardous Air Pollutants. This source is located in an attainment area for all pollutants, and is a PSD major source for volatile organic compounds. Only one emission unit at the facility was previously permitted under a NSR permit in 1985. Most of the emission units at the facility are grandfathered and most of the modifications to the facility since the enactment of the Clean Air Act have had emission potential below the level requiring a NSR permit for the change.

No NSPS requirements apply to the facility at this time. All boilers are technically subject to the Boiler MACT (40 CFR 63 Subpart DDDDD) but all the boilers are of firetube design and therefore fall into the classification of "small boilers." At present, small boilers are not subject to any of the emission limitations, monitoring requirements, or reporting requirements of the Boiler MACT. The facility is subject to the Wood Furniture MACT (40 CFR 63 Subpart JJ). The federal operating permit is written to allow the facility to demonstrate any of the acceptable methods for compliance with the MACT, although historically the facility has used compliant coatings and averaging to show compliance with the Wood Furniture MACT. The kilns are subject to the Plywood and Composite Wood Products MACT (40 CFR 63 Subpart DDDD), however no limits, work practice requirements, or other requirements except notification apply at this time because the facility as a whole is subject to MACT JJ.

COMPLIANCE STATUS

The facility is inspected at least once per year. The facility is in compliance with the State Air Pollution Control Board regulations.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emission units are grouped as follows:

Fuel Burning Equipment

The plant's primary fuel is hogged and smaller dry furniture plant wood fuel, which is fed pneumatically to boilers B1, B2, and B3 after auguring from enclosed fuel storage bins. These boilers commenced construction in approximately 1971. The only auxiliary fuel is No. 2 fuel oil, which is burned in oil fired boiler B4 and wood-fuel boiler B1. Boiler B4 burns only No. 2 fuel oil and has an input rated capacity of 7 MMBTU/hr. It was installed in 1996. Boilers B1 and B2 each have a continuous operation maximum input rated capacity of 29.9 MMBTU/hr. Boiler B3 has a continuous operation maximum input rated capacity of 23.0 MMBTU/hr. The boilers are registered emissions units, but are subject to no new source review (NSR) permit or NSPS requirements at this time. All boilers are technically subject to the Boiler MACT (40 CFR 63 Subpart DDDDD) but all the boilers are of firetube design and therefore fall into the classification of "small boilers." At present, small boilers are not subject to any of the emission limitations, monitoring requirements, or reporting requirements of the Boiler MACT.

Woodworking Equipment

This equipment group includes all of this typical wood furniture plant's woodworking processes and equipment, including wood hogging and wood fuel material transfers. All wood dust emission sources are controlled by closed loop cyclones and a few internal fabric filters without emissions, and nine (9) baghouse filters and a bin vent fabric filter exhausting to atmosphere. There is no applicable NSPS for this process. The Wood Furniture MACT (40 CFR 63 Subpart JJ) does not apply to the woodworking materials and processes that are currently used at this plant.

Finishing Equipment

This equipment group includes all finishing for this plant. It consists mostly of 23 spray booths. It includes all finishing related VOC emissions. The Wood Furniture MACT, 40 CFR 63 Subpart JJ, does apply. The plant's primary method for meeting the MACT is to normally use only compliant coatings where required. All the finishing booths and related equipment are grandfathered or were added as permit exempt changes to the facility.

Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
ES-B1.	EP-1	Bigelow boiler firing furniture plant dry wood; auxiliary fuel is #2 fuel oil.	29.9 MMBtu/hr (2 tph wood fuel).	Zurn Multicyclone.	NA	PM/PM-10	NA - Constructed prior to NSPS Dc applicability.
ES-B2	EP-2	Bigelow boilers firing furniture plant dry wood.	29.9 MMBtu/hr (2 tph wood fuel).	Zurn Multicyclone	NA	PM/PM-10	NA - Constructed prior to NSPS Dc applicability.
ES-B3	EP-3	Bigelow boilers firing furniture plant dry wood.	23.0 MMBtu/hr (2 tph wood fuel).	Zurn Multicyclone	NA	PM/PM-10	NA - Constructed prior to NSPS Dc applicability.
ES-B4	EP-4	Iron Fireman No. 2 fuel oil. Installed in 1996.	7. million Btu/hr input rated capacity	NA	NA	NA	NA

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Process Equipment							
ProcessA							
ES – 6	EP-6 through EP-14	WOODWORKING. Includes all woodworking equipment, wood hogging and wood fuel material transfers.	NA	9 Pneumafill Baghouses (fabric filters) and a bin vent fabric filter exhausting to atmosphere, plus closed Loop Cyclones and a few internal fabric filters w/o emissions.	CD-1 to CD-9	PM/PM-10	7/17/85 permit
ProcessB							
ES – 5	EP-5	FINISHING. Includes 23 finishing spray booths and all finishing related VOC emissions. 40 CFR 63 JJ Wood Furniture MACT Applies.	NA	Spraybooth overspray dry filters, such as fiber pads, or equivalent.	CD-1	PM/PM-10	NA

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

The emissions from the 2004 calendar year are summarized below:

Total VOC Emissions:	158.17 tons
Total NOx Emissions:	25.44 tons
Total CO Emissions:	31.15 tons
Total SO2 Emissions:	1.31 tons
Total PM-10 Emissions:	19.12 tons
Total HAP Emissions:	8.58 tons

Significant HAP Emissions

Xylenes:	4.10 tons
Toluene:	3.51 tons
Ethyl Benzene:	0.97 tons

EMISSION UNIT APPLICABLE REQUIREMENTS

New Source Review Permit Requirements

Most of the equipment at this facility predates the Clean Air Act and the majority of the subsequent modifications were below the emission potential which would require a NSR permit. One modification did require such a permit, issued July 17, 1985. The permit contains only a few enforceable conditions, described below:

Title V Condition	NSR Condition	Description	VAC Applicable Requirement
IV-A-1	I-5	Control system for No. 2 woodwaste hog	9 VAC 5-80-1180
IV-A-4	I-4	Throughput limit for No. 2 woodwaste hog	9 VAC 5-80-1180
IV-D-1	II-4	Test ports on request	9 VAC 5-50-30 F

The July 17, 1985, permit was written before recent guidance on the elements needed to make a NSR permit enforceable as a practical matter. Under authority of 9 VAC 5-80-110, the regulation concerning the content of federal operating permits, the elements of the NSR permit necessary for enforceability were added. These conditions are: IV.B.1, a monitoring condition to demonstrate performance of the control device(s) required by the NSR permit; and IV.D.2 and IV.D.3, record keeping requirements for the monitoring requirement in IV.B.1 and the throughput limitation in IV.A.4.

MACT Requirements

The facility is subject to the Wood Furniture MACT (40 CFR 63 Subpart JJ). The emission limitation, monitoring, record keeping, testing and reporting requirements of the MACT are repeated in the corresponding sections of the Facility Wide section of the permit. A requirement by reference is included in the Finishing Equipment section of the operating permit (V.A.3).

All four boilers are subject to the Boiler MACT (40 CFR 63 Subpart DDDDD). All boilers meet the definition of "small boiler" and have no limitation, monitoring, or reporting requirements at this time. A requirement by reference is included in the Fuel Burning Equipment section of the operating permit (III.A.14).

The wood drying kilns are subject to the Plywood and Composite Wood Products MACT (40 CFR 63 Subpart DDDD). The kilns have no limitation, monitoring, or reporting requirements at this time. A requirement by reference is included in the Woodworking Process Equipment section of the operating permit (IV.A.6).

Fuel Burning Equipment Related Requirements

Virginia regulations 9 VAC 5-40-880 through 9 VAC 5-40-1040 set emission standards for fuel burning equipment. Compliance with the applicable standards can be assumed based on normal emission factors for wood fuel and distillate oil. However, as grandfathered units, no permit restrictions for fuel type are contained in a NSR permit. As

these boilers are capable of combusting coal as a fuel, which would require monitoring to demonstrate compliance, the various elements standard to a NSR permit to limit emissions by fuel type restrictions have been incorporated into the federal operating permit. The wood fired boilers also predate requirements for Best Achievable Control Technology. No stack test or other documentation was submitted to demonstrate that the boilers could meet the prevailing particulate standard without use of the multi-clones. Therefore the requirement to use the multi-clones is made explicit in the federal operating permit.

Permit conditions that explicitly limit emissions to the standards for fuel burning equipment are as follows: III.A.9, III.A.10, and III.A.11. Permit conditions that emulate a NSR permit restricting fuel usage to wood or distillate oil and requiring the existing multi-clones, so no emission monitors are required, are as follows: III.A.1, III.A.2, III.A.3, III.A.4, III.A.5, III.A.6, III.A.7, III.A.8, III.C.1, and III.C.2.

Visible Emission Limit Requirements

Visible emission limits are required under 9 VAC 5-40-80, 9 VAC 5-40-940, 9 VAC 5-40-2290, and 9 VAC 5-50-80. The slightly less stringent standard 9 VAC 5-40-80 applies to all grandfathered equipment. The fuel burning standard 9 VAC 5-40-940 applies to Boilers 1, 2, and 3. The slightly more stringent 9 VAC 5-50-80 applies to Boiler 4 and any exempt modifications after March 17, 1972. Since no clear distinction is available between the exempt units and the grandfathered units, visible emission limits were streamlined to the 9 VAC 5-50-80 standard for all emission units with no objection from the source.

Conditions III-A-12, IV-A-3, and V-A-2 set visible emissions limits for the boilers, woodworking equipment and finishing equipment, respectively.

Standards for Woodworking Operations Requirements

Rule 4-17 (9 VAC 5-40-2250 through 9 VAC 5-40-2380) sets standards for emissions from woodworking operations. Conditions IV-A-1 and IV-A-2 impose the necessary limitation on the woodworking equipment to insure compliance with this standard.

Emission Inventory Related Requirements

Facilities required to obtain federal operating permits are also subject to fees based on the annual emissions measured or estimated from the facility. Record keeping of production, raw material throughput, and/or fuel consumption is added to federal operating permits where such records are considered necessary to confirm annual emission estimates. Since few of these records are required in underlying NSR permits, several such records are incorporated into the Title V permit. Conditions IV-C-1, V-C-1, and V-C-2 provide that records are available to verify emission inventories.

Proper Equipment Operation

It is the practice of the Virginia Department of Environmental Quality to require in emission permits conditions that the emission sources, such as fuel burning equipment, be operated in a proper manner. These conditions fall into two categories. The first category is a general condition requiring proper operation and maintenance of equipment which applies under 9 VAC 5-170-160 for equipment in a NSR permit or existing equipment ancillary to the operation of the permitted equipment. The second category is specifications that equipment designed to operate under specific parameters be operated only under those parameters. These conditions are specifically addressed under 9 VAC 5-80-10 for equipment in a construction permit but for existing equipment in an operating permit that is not subject to a construction permit, 9 VAC 5-170-160 is the requirement generally deemed to be applicable. Since Ethan Allen, Dublin has no recent NSR permits, these standard conditions are being included in the Title V permit to further justify that record keeping and emission estimates based on fuel usage and throughput measurement will be sufficient to demonstrate compliance with emission limits for combustion products, woodworking emissions, and finishing emissions. Using standard emission factors, predicted combustion emissions, based on the wood and distillate oil limitation, are well below the regulatory limits. As such, periodic stack testing of the combustion equipment seems unduly burdensome and these conditions are intended to demonstrate that the monthly emissions estimates are adequate to satisfy periodic monitoring requirements for this operating permit.

Condition III-A-13 is a general condition for proper operation of boilers.

Conditions III-C-4 and III-C-5 are requirements to maintain records and procedures supporting compliance with Condition III-A-13.

Taken together with the fuel usage conditions, these conditions define a scenario in which the proper operation of the combustion equipment at this facility are physically incapable of violating the particulate matter and sulfur dioxide standards for fuel burning equipment, 9 VAC 5-40-900 and 9 VAC 5-40-930. Using these conditions allows the permit to be written without explicit limits for SO_2 and PM from combustion sources, and to use emission estimates rather than stack tests for compliance assurance as discussed above.

Condition IV-A-5 is a general condition for proper operation of woodworking air pollution control equipment and the process equipment affecting emissions.

Conditions IV-C-5 and IV-C-6 are requirements to maintain records and procedures supporting compliance with Condition IV-A-5.

Condition V-A-4 is a general condition for proper operation of finishing area air pollution control equipment and the process equipment affecting emissions.

Conditions V-C-4 and V-C-5 are requirements to maintain records and procedures supporting compliance with Condition V-A-4.

These conditions, combined with baghouse usage and monitoring requirements, finishing equipment particulate filter usage, and compliance with MACT JJ, are believed to be sufficient to demonstrate compliance without periodic stack testing for the facility.

Standard Testing Methods

It is the practice of the agency to reference the appropriate USEPA test methods for testing done in addition to monitoring explicitly specified in federal operating permits. Conditions III-D-1, IV-D-2 and V-D-1 summarize the appropriate test methods.

Periodic Monitoring

The permit content requirements of the regulations for federal operating permits, 9 VAC 5-80-110, state that the permit should include conditions for periodic monitoring sufficient to demonstrate that the facility is in compliance with the limits of the permit. The record keeping requirements are deemed sufficient to determine compliance with the emission limits for fuel burning equipment PM and SO_2. Record keeping for finishing material consumption, baghouse monitoring, and woodworking throughputs along with compliance with opacity limits is considered sufficient to demonstrate compliance with the emission limits for PM and PM-10. No opacity is expected to be observed under normal operation of the finishing and woodworking equipment. Little or no opacity is expected from the boilers when using only distillate oil. Under these conditions, a weekly modified Method 22 evaluation with requirement for Method 9 evaluation if opacity is observed is deemed sufficient to satisfy the periodic monitoring requirement.

Condition III-B-1 requires an annual inspection of the boiler multiclones and Condition III-C-6 requires a record of the inspections be kept.

Conditions III-B-2, IV-B-2, and V-B-1 require Method 22 evaluation of the boilers, baghouses, and spray booths and, if opacity is observed, documentation of corrective action or a Method 9 evaluation to show the opacity is within permit limits.

Conditions III-C-3, IV-C-4, and V-C-3 require that records of the periodic monitoring results be maintained.

Miscellaneous Requirement

During review of this facility for the initial federal operating permit, a question arose as to whether the cumulative modifications to the finishing operation should remain as exempt, given multiple small alterations to spray booths since the Clean Air Act requirements took effect. Since required particulate control of the spray booths would be the main provision and the facility was already practicing such control, VDEQ decided that a similar requirement in the operating permit would be sufficient. Condition V-A-1 addresses this concern.

Streamlined Requirements

ES-B: Emission Source - All 4 boilers are streamlined into a single group for simplification. NSPS and NSR permitting are not applicable to any, although the small oil boiler B4 was installed in 1996 after pre-1972/1979 regulation applicability for the wood-fired boilers.

ES-B: Boilers - visible emissions simplification. The 9 VAC 4-40-940 regulation limiting existing boiler visible emissions to 20% except for 60% during one six minute period per hour for the wood-fired boilers (B1 - B3) is streamlined out to the stricter 9 VAC 5-50-80 regulation requirement of 20% except for 30% during one six minute period per hour for the newer small oil boiler B4, so the entire boiler group is simplified to a single strictest limit.

ES-B: Boilers - SO2. The 9 VAC 5-40-930A1 limit of 2.64 lbs SO2/million Btu for each boiler is streamlined out by limiting fuels to wood, which has negligible sulfur content, and No. 1 or No. 2 distillate fuel oil auxiliary fuel. No. 2 fuel oil means 0.5% sulfur maximum, which calculates to a cleaner SO2 emission rate of approximately 0.52 lb/million Btu, using the current 9/98 revision AP-42 emission factor of 142S lb/1000 gal.

ES-B: Boiler B4 particulates: The 9 VAC 5-40-900A1 particulate limit for this small oil boiler is streamlined out by the stricter limitation for this boiler to burn only No. 1 or No. 2 distillate fuel oil. No. 2 fuel oil calculates to approximately 0.02 lb/million Btu, using the current 9/98 AP-42 emission factor of 2 lb/1000 gal, which means clean fuel for particulates.

ES-6: Woodworking - visible emissions simplification. The 9 VAC 4-40-80 regulation limiting pre-1972 process equipment visible emissions to 20% except for 60% during one six minute period per hour is streamlined out to the stricter 9 VAC 5-50-80 regulation limitation of 20% except for 30% during one six minute period per hour for the second wood hog portion of woodworking and the other post-1972 equipment, so the entire woodworking process (all wood dust) group is simplified to a single strictest limit.

ES-5: Finishing - visible emissions simplification. The 9 VAC 4-40-80 regulation limiting pre-1972 process equipment visible emissions to 20% except for 60% during one six minute period per hour is streamlined out to the stricter 9 VAC 5-50-80 regulation limitation of 20% except for 30% during one six minute period per hour for the post-1972 equipment, so the entire finishing process group is simplified to a single strictest limit.

NSR Conditions: Several conditions in the NSR permit are streamlined out which deal with new equipment installation time frames and startup initial notifications because these conditions are obsolete due to having been completed for all permitted equipment.

COMPLIANCE ASSURANCE MONITORING

Compliance Assurance Monitoring is only applicable to controlled pollutants. Therefore only the particulate matter (PM-10) emissions need to be considered for CAM. The facility consultant produced calculations that the maximum uncontrolled PM-10 from any baghouse exhaust would be less than 10 tons per year. The permit engineer is not confident in the throughput estimate supplied, but best engineering judgement would not increase any estimate by more than 100%. Therefore the baghouses are not subject to CAM. The worst case PM-10 emission from any boiler, using AP-42 factors, is less than 26 tons per year. Therefore the boilers are not subject to CAM. Based on 23 spray booths and worst case solids content for the annual coating consumption, no single spray booth should emit more than 10 tons per year of uncontrolled PM-10. Therefore the spray booth filters are not subject to CAM.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

STATE-ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

Odorous Emissions	9 VAC 5-50-310
Toxic Pollutants	9 VAC 5-50-320

The permittee elected to exclude such requirements from this permit. None of the requirements from these regulations is contained in the July 17, 1985 NSR permit.

FUTURE APPLICABLE REQUIREMENTS

This facility is a major source of hazardous air pollutants. None of the promulgated MACTs appear to apply to this facility. It is anticipated that being subject to and demonstrating compliance with the Wood Furniture MACT and the Boiler MACT may exclude the facility from requirements of those MACTs which have been promulgated but not yet finalized.

INSIGNIFICANT EMISSION UNITS

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (5-80-720 C)
N/A	Eight (8) lumber drying kilns	9 VAC 5-80-720 B	VOC (less than 5tpy)	500,000 Brd-ft per 2 wks
N/A	Gluing	9 VAC 5-80-720 B	VOC less than 5 tons/yr PTE.	
N/A	Emergency Diesel Fire Pump	9 VAC 5-80-720 C		255 hp
N/A	Maintenance Parts Washer	9 VAC 5-80-720 A		

These insignificant emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

CONFIDENTIAL INFORMATION

No information contained in the permit application or in the specific records required by the permit is considered confidential.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was printed in the August 28, 2005, edition of the Roanoke Times, New River Valley Edition. Public comments were accepted from August 28, 2005, through September 28, 2005. No public comments were received. USEPA reviewed this permit with concurrent processing as draft and proposed. The final day for USEPA comments was October 13, 2005, as no public comments were received to require a new proposed version of the permit. No comments were received from USEPA.

APPENDIX A: NSR/FOP CORRESPONDENCE TABLE

The following table is a modification of the table in the section Emission Unit Applicable Requirements – New Source Review Permit Requirements. This table is ordered corresponding to the NSR permit conditions as an aid to reference the corresponding federal operating permit conditions. The NSR permit follows in Appendix B.

NSR Condition	Title V Condition	Description	VAC Applicable Requirement
I-1	N/A	Plant location	
I-2	N/A	Application information	
I-3	N/A	Equipment list	
I-4	IV-A-4	Throughput limit for No. 2 woodwaste hog	9 VAC 5-80-1180
I-5	IV-A-1	Control system for No. 2 woodwaste hog	9 VAC 5-80-1180
II-1	N/A	Notification (completed)	
II-2	N/A	Notification (completed)	
II-3	N/A	Notification (completed)	
II-4	IV-D-1	Test ports on request	9 VAC 5-50-30 F
II-5	IX-V	Permit suspension/revocation	9 VAC 5-80-10
II-6	N/A	Local zoning standards met	
II-7	IX-F	Malfunction causing exceedence report	9 VAC 5-20-180
II-8	N/A	Report changes in equipment/operation	(obsolete regulation)
II-9	N/A	Compliance with Rule 5-3	(obsolete regulation)
II-10	N/A	Failure to construct citation	9 VAC 5-80-1210
II-11	IX-U	Change of ownership	9 VAC 5-80-10
II-12	IX-J	Severability clause	(SABCB)
II-13	N/A	Approval does not constitute compliance	(obsolete regulation)

APPENDIX B: NSR PERMIT DATED July 17, 1985

A scanned copy of the permit follows.